
ENVIRONMENTAL Fact Sheet



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Preventing Pollution in Your Own Backyard: Emissions from Lawn and Garden Equipment

Small Engines – Big Polluters

Most people do not associate air pollution with mowing the lawn. Yet many small individual sources of air emissions like lawn mowers can add up to one of the largest categories of air emissions. Emissions from lawn mowers, snow blowers, chain saws, leaf vacuums, and other outdoor power equipment are a significant source of pollution. Today's small engines emit high levels of carbon monoxide, a colorless, odorless, poisonous gas. They also emit hydrocarbons, or volatile organic compounds (VOCs), and nitrogen oxides, pollutants that contribute to the formation of ozone. While ozone occurs naturally in the upper atmosphere and shields the earth from harmful radiation, ozone at ground level is a noxious pollutant. Ground-level ozone impairs lung function, inhibits plant growth, and is the key ingredient of smog.



Emission control for small gasoline engines has not been a crucial design consideration for manufacturers until recently. Consequently, small engines contribute more emissions per hour of use than most cars, which utilize complex emission control technologies. In addition, power equipment users may inadvertently contribute to pollution by careless fuel handling and improper maintenance.

Over the past few years, U.S. Environmental Protection Agency regulations have resulted in cleaner lawn and garden power equipment. EPA and the power equipment industry are working to identify and bring to market cleaner technologies for small engines. Meanwhile, consumers can make a difference by adopting practices that will help protect the environment both now and in the future. You can prevent pollution in your own backyard!

Tips for Reducing Emissions from Lawn and Garden Equipment

- ***Avoid spilling gasoline or allowing it to evaporate.***
 - Preventing spills and over-fills is an easy and effective way for power equipment owners to prevent pollution. Even small gasoline spills evaporate and pollute the air. Take precautions against spillage when fueling power equipment and when filling gasoline containers at the service station pump.
 - Use a spill-proof gasoline container of a size you can handle easily and hold securely. Pour slowly and smoothly while filling the equipment gasoline tank.

The cap or spout on a new spill-proof gasoline container will automatically close tightly after filling the gasoline tank. However, if using an older type portable fuel container, be sure to tightly seal the container and the vent after filling it at the gas pump. Also, remember to recap the gasoline tank on the equipment.

- If necessary, use a spout or funnel when pouring gasoline into the equipment to avoid overfilling or having fuel run over.

- ***Maintain your equipment.***

Like cars, properly maintained lawn and garden equipment are less likely to pollute, and will perform better and last longer. Proper maintenance becomes even more important in the future as cleaner engines are developed for power equipment.

- Change oil as indicated in the owner's manual.
- Regularly clean or replace air filters and get periodic tune ups.
- Keep mower blades sharp and the underside of the deck clean.
- Winter-proof equipment each fall. This includes emptying all fuel, draining and replacing oil (if used), checking the air cleaner, cleaning the engine, and other routine maintenance.

- ***Consider "cleaner" options.***

New, cleaner gasoline equipment is entering the market and electric equipment is cleaner than equipment powered by gasoline engines. In addition, alternative fuel options are becoming more available all the time.

- Check out the electric options. Electrical lawn and garden tools produce essentially no pollution from exhaust emissions or through fuel evaporation. Electric equipment is often easier to use and maintain, uses less energy, and operates more quietly. However, generating the power to run electric equipment does produce pollution.
- Use manual tools. Tools that don't require electric or gasoline engines are especially handy for small yards or small jobs. There are hand tools available that will meet a wide variety of lawn and garden needs, are easy to use, quiet, provide healthy exercise, and generate no emissions.

- ***Plant low-maintenance ground cover and shrubs to reduce mowing time.***

By mowing less, you can directly reduce emissions. Changing your lawn from grass to other landscaping that doesn't require as much maintenance can reduce mowing and trimming. Your local cooperative extension service or lawn and garden center may have suggestions for what varieties of native and/or low maintenance plants will grow best your area.

- Plant trees and shrubs that need minimal pruning. Additional trees and shrubs can also reduce the energy costs of heating and cooling your house, while providing landscaping for wildlife.
- Choose low maintenance turf grasses or grass/flower seed combinations which grow slowly so you need to mow less often.
- Landscape with native varieties of wildflowers and plants. Native plants require less water, fertilizer, and pesticides, as well as less trimming.

- ***Recycle old equipment.***

Older equipment powered by gasoline engines can be up to twice as polluting as new equipment. Instead of selling or giving away your



old lawn and garden power tools, take them to a recycling center where they can be converted into raw material for use in cleaner equipment and other products.

For More Information

By combining these strategies, you can reduce your personal contribution to pollution. In addition, your yard equipment will last longer and you will save money. To find out more about how you can reduce emissions of carbon monoxide and smog-producing chemicals during your daily activities, contact the DES Air Resources Division at (603) 271-1370.